

AMENDMENTS TO THE CLAIMS

The following list of claims replaces all prior listings and versions of claims in this application:

1. (Currently amended) A vertebral disk prosthesis structured to be disposed adjacent to at least one vertebral body, said vertebral body having a periphery, said vertebral disk prosthesis comprising:

at least one contacting member including a top endplate and a bottom endplate and having at least two movable lateral portions, said lateral portions coupled to each other; the top endplate structured to engage a first vertebral body and the bottom endplate structured to engage a second vertebral body, wherein the top and bottom endplates are pivotally connected for allowing the adjacent vertebral bodies to pivot with respect to each other when the endplates are engaged with the vertebral bodies;

said lateral portions movable between:

a contracted position in which the lateral portions are disposed such that the member has a first lateral width, said first lateral width being smaller than the lateral width of a vertebral body of a patient; and

an expanded position in which the lateral portions are disposed such that the contacting member has a second lateral width that is larger than the first lateral width, and said at least one axial end surface is configured for supporting and abutting the periphery of the vertebral body, the second lateral width being sufficient for the axial end surface on the lateral portions to support and abut said periphery at opposite lateral sides of the vertebral body; ~~and~~

an expansion member disposed between said lateral portions and configured for moving said lateral portions between the contracted position and the expanded position; and

a bushing that comprises a gel disposed and in supportive association between said top and bottom endplates.

2. (Original) The prosthesis of claim 1, wherein the shape of the member in the expanded position generally corresponds to the periphery of the vertebral body.

3. (Original) The prosthesis of claim 1, wherein said lateral portions are flexibly coupled to each other for moving between the contracted and the expanded position.

4. (Original) The prosthesis of claim 3, wherein said lateral portions are normally biased to the contracted position and must be acted upon by said expansion member to be moved to said expanded position.

5. (Withdrawn) The prosthesis of claim 3, wherein said lateral portions are normally biased to a semi-expanded position and must be acted upon by said expansion member to be moved to said expanded position.

6. (Currently amended) The prosthesis of claim ~~1~~ 45, wherein at least one of the expansion member endplates comprises a wedge receivable between said lateral portions for moving said lateral portions between the contracted position and the expanded position.

7. (Currently amended) The prosthesis of claim ~~6~~ 46, further comprising:
a top threaded fastener connected between the top wedge and said at least one member such that top endplate; and

a bottom threaded fastener connected between the bottom wedge and bottom endplate;

wherein rotation of said the top and bottom threaded fasteners respectively moves said top and bottom wedges with respect to said at least one member top and bottom endplates whereby said lateral portions of the respective edgeplates are moved between the contracted position and the expanded position.

8. (Original) The prosthesis of claim 6, wherein said wedge has a laterally elongated cross-section extending along a plane normal to a direction of movement of said wedge.

9. (Currently amended) The prosthesis of claim ~~6~~ 1, wherein:

said at least one member further includes a central portion; and
said lateral portions are movably coupled to said central portion.

10. (Currently amended) The prosthesis of claim 6, wherein: ~~said at least one member further includes a central portion and a gripping portion; said gripping portion configured for and facing generally in a vertebral axial direction for engaging and gripping the adjacent vertebral body; and said wedge includes an axial surface that is inclined with respect to the plane of the axial surface for moving the gripping axial portion against the vertebral body of~~ the at least one endplate to the extended position.

11. (Currently amended) The prosthesis of claim 6, wherein said wedge and at least one ~~member~~ of the endplates are associated for resisting withdrawal movement of said wedge with respect to said at least one ~~member~~ of the endplates to resist said lateral portions from moving towards the contracted position.

12. (Currently amended) The prosthesis of claim 6, wherein said wedge and said at least one ~~member~~ of the endplates comprise a ratchet configured for allowing movement of said wedge with respect to said lateral portions in a first direction for moving said lateral portions to the expanded position and for restricting or resisting movement of said wedge in an opposite direction.

13. (Original) The prosthesis of claim 6, wherein the lateral portions comprise a first wedge support portion and the wedge comprises a second wedge support portion, one of the wedge support portions comprising a key and the other comprising a keyway configured and dimensioned for slideably receiving the key to provide axial support to the wedge.

14. (Original) The prosthesis of claim 1, wherein in the expanded position said lateral portions are configured for abutting and supporting at least about 50% of the periphery of the vertebral body.

15. (Withdrawn) The prosthesis of claim 1, wherein said at least one member comprises a cage configured for locking adjacent vertebral bodies together, and said axial end surface comprises first and second axial end surfaces facing in opposite directions for abutting and supporting the adjacent vertebral bodies.

16. (Canceled)

17. (Currently amended) The prosthesis of claim ~~16~~ 45, further comprising a pivot limiter disposed between said top and bottom endplates and comprising a sloped surface facing one endplate, wherein said top endplate and said the pivot limiter are pivotally connected and the sloped surface is configured and associated with said top and bottom endplates for allowing and limiting pivoting between the top endplate and the pivot limiter.

18. (Currently amended) The prosthesis of claim ~~16~~ 1, wherein each of said top and bottom endplates comprises a central portion disposed between said lateral portions, wherein the central portions are pivotally connected to each other.

19. (Currently amended) The prosthesis of claim ~~16~~ 45, further comprising:
a pivot that pivotally connects said top and bottom endplates for vertebral axial rotation substantially about a vertebral longitudinal axis; and
at least one protrusion associated with one of said top and bottom endplates and received in an opening of the other of the said top and bottom endplates, wherein the opening is larger than the protrusion for permitting and limiting the axial rotation.

20. (Previously presented) The prosthesis of claim 19, wherein the pivot comprises a universal pivot.

21. (Canceled)

22. (Currently amended) The prosthesis of claim ~~16~~ 45, wherein said at least one member includes a spacer disposed between said top and bottom endplates.

23. (Original) The prosthesis of claim 22, wherein:
said spacer includes a central portion; and
said lateral portions movably coupled to said central portion.

24. (Currently amended) The prosthesis of claim ~~23~~ 46, wherein said lateral portions are normally biased to the contracted position and must be acted upon by said ~~expansion member~~ wedges to be moved to said expanded position.

25. (Withdrawn and currently amended) The prosthesis of claim ~~23~~ 46, wherein said lateral portions are normally biased to a semi-expanded position and must be acted upon by said ~~expansion member~~ wedges to be moved to said expanded position.

26. (Original) The prosthesis of claim 1, wherein the lateral portions are movably coupled by a living hinge.

27. (Original) The prosthesis of claim 26, wherein:
said living hinge comprises first and second living hinges connected to the lateral portions, respectively; and
said at least one member comprises a central portion coupled to each said living hinges.

28-30. (Canceled)

31. (Currently amended) The prosthesis of claim ~~30~~ 45, wherein the axial portion comprises a gripping portion disposed and configured for engaging and gripping an interior portion of the vertebral body face in the expanded position.

32. (Currently amended) The prosthesis of claim ~~30~~ 45, further comprising an expansion member associated with lateral and axial portions for moving the lateral and axial portions to the expanded and extended positions.

33. (Original) The prosthesis of claim 32, wherein the expansion member comprises a wedge with lateral and axial wedge surfaces cammingly associated with the lateral and axial portions for camming to the expanded and extended positions.

34. (Currently amended) ~~A vertebral disk~~ The prosthesis of claim 45, further comprising: first and second members each having an axial end surface configured for supporting and abutting adjacent vertebral bodies; and a bushing disposed between and in supportive association with the contacting members endplates when the prosthesis is implanted between the vertebral bodies, wherein the bushing comprises a gel and is configured for absorbing shock between the adjacent vertebral bodies.

35. (Currently amended) The prosthesis of claim 34, wherein the bushing is slideable with respect to at least one of the said first member endplates for reducing shearing within the bushing during relative motion between the first and second ~~members~~ endplates.

36. (Canceled)

37. (Withdrawn and currently amended) A prosthetic device, comprising:
the prosthesis of claim 7, ~~wherein the at least one contacting member comprises first and second contacting members which are pivotally connected for articulating adjacent vertebrae between which the contacting members are implanted; and~~
an instrument for implanting the prosthesis, which instrument comprises:
first top and second bottom fastener drivers respectively configured for engaging and driving the top and bottom fasteners ~~of the first contacting member and the fastener of the second contacting member~~ for adjusting the width of the ~~contacting members~~ first and second endplates; and

a spacer connected between the first and second drivers and configured and dimensioned for positioning between first and second ~~contacting members~~ endplates, wherein the spacer is configured for maintaining the relative position of the ~~contacting members~~ endplates.

38. (Withdrawn) The instrument of claim 37, wherein the drivers are substantially parallel.

39. (Withdrawn) The instrument of claim 37, wherein the drivers are adapted to substantially simultaneously engage both fasteners.

40. (Withdrawn) The instrument of claim 37, further comprising a releasable locking mechanism adapted to releasably secure the implantation instrument to the prosthesis.

41. (Withdrawn) The instrument of claim 40, wherein the fasteners each define an internal groove, and wherein a releasable locking mechanism further comprises a locking ball adapted to be received by the groove, and a sliding cam for controlling the position of the locking balls.

42-43. (Canceled)

44. (Previously Presented) The prosthesis of claim 2, wherein in the expanded position the lateral portions are configured for abutting and supporting at least about 75% of the periphery of the vertebral body.

45. (Previously Presented) A vertebral disk prosthesis, comprising:
a top endplate configured to supportively engage a first vertebral body; and
a bottom endplate configured to supportively engage a second vertebral body,
wherein the top and bottom endplates are pivotally connected for allowing the adjacent vertebral bodies to pivot with respect to each other when the endplates are engaged therewith;

wherein each endplate comprises:

lateral portions connected to each other for movement in vertebral lateral directions between:

a contracted position in the implantation configuration, in which the body of said at least one member has a first lateral width and the end surface is narrower than the lateral width of a vertebral body of a patient,

an expanded position in the implanted configuration, in which the lateral portions are disposed such that said at least one member has a second lateral width that is larger than the first lateral width, and in which the axial end surface is configured for supporting and abutting the body; and

an axial portion configured for moving with respect to the lateral portions in a vertebral axial direction away from the other of the endplates from:

a retracted position in the implantation configuration, in which the prosthesis has a first axial height, and

to an extended position in the implanted configuration, in which the prosthesis has a second axial height that is greater than the first axial height.

46. (Previously Presented) The prosthesis of claim 45, wherein:

the lateral portion of each endplate comprise a first wedge support portion and the wedge comprises a second wedge support portion;

the prosthesis further comprises top and bottom wedges, each of which is receivable between said lateral portions of the top and bottom endplates, respectively, for moving said lateral portions and axial portion of the respective top and bottom endplate between the contracted and expanded positions and the retracted and extended position; and

the top and bottom wedges are supported in the vertebral axial direction by the wedge support portions of the lateral portions of the top and bottom endplates, respectively, to bias each axial portion in towards the extended position.

47. (Previously Presented) The prosthesis of claim 45, wherein the axial

portion of each of the top and bottom endplates is a single axial portion.

48. (Previously Presented) The prosthesis of claim 45, wherein the top and bottom endplates are pivotally connected for allowing the adjacent vertebral bodies to pivot in vertebral flexion, extension, lateral bending, and axial rotation with respect to each other when the endplates are engaged therewith.